

Making the Transition to Digital Radiography with Ysio

An Insight

Just recently, the Beatrix Hospital in Gorinchem, The Netherlands, decided to shift from analog to digital radiography using a flat detector. After thorough evaluation, the hospital administration decided on two brand new Ysio systems with wireless detectors. For Winanda Buijserd-van Nifterik, this is clearly a decision for optimized care and service delivery for the patients.

With about 80 medical specialists delivering care in the hospital and at the Linge Polyclinic, an off-site outpatient clinic in Leerdam, the hospital is responsible for over 170,000 visits each year. The 11 examination rooms in the Radiology Department are staffed by a team of 70 employees including six radiologists. As part of the hospital's ongoing upgrade of its infrastructure, the Radiology Department will be renovated and converted to a fully digital department for better service delivery.

Among the departmental upgrades, a new PACS (Picture Archiving and Communication System) and two digital radiography systems will be installed. As the radiology department was shifting from analog radiography (film/ screen based) to flat detector (FD) digital radiography, they evaluated a number of FD solutions that were available on the market before deciding on Ysio from Siemens Healthcare. In this interview, Dr. Hans Biemans, consultant radiologist and Ms. Winanda Buijserd-van Nifterik, the department manager, shared with us their evaluation process for the FD radiography solution and the reasons for their final decision.

Ms. Buijserd, can you give us an overview of the volume and type of examinations in your department?

With 11 examination rooms, we perform approximately 75,000 clinical procedures per year consisting of mammography, ultrasonography, coronary angiography as well as CT and MR imaging procedures. Of these, 45,000 are radiographic imaging procedures. In the last three years, we have experienced an average yearly increase of 10% in imaging procedures. This is due to a combination of factors like the aging population, the increase of specialists as well as the excellent care delivery provided by the hospital.

The Radiology Department is in the midst of digitization; can you briefly explain the ongoing upgrades within the department?

We refer to this upgrade as the DMB (Digitization of Medical Images) project and it has two phases. We are now in the first phase, which is expected to be finalized by middle of 2008. With this phase, we will commission our new RIS (Radiological Information System) and PACS (Picture

Archiving and Communication System). We are also expecting the new FD radiography solutions to be installed during this phase. The second phase will involve image digitization of other procedures like endoscopy and ultrasonography from other medical specialities.

What are the main reasons for going digital?

In general, there is a demand from the hospital to provide better quality of care and service delivery. We believe that a key aspect of this improvement process is the optimal use of imaging technology for diagnoses and treatment. Besides this mission, there are increasing expectations for the level of care and imaging service from our medical specialists and the general practitioners who make use of our imaging services. To meet these expectations, we needed to be more efficient and the current status of analog radiography would not be able to support the required efficiency improvements. Additionally, going digital gives us the ability to minimize the error rate, improve the reporting process and boost overall efficiency for the radiology department.

“The high degree of automated system movements and the colour touchscreen provides the possibility to improve workflow and reduce physical effort for our technologists.”

Ms. Winanda Buijserd-van Nifterik, Manager of Radiology Department, Beatrix Hospital, Gorinchem, The Netherlands



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How did the hospital decide on the most suitable imaging technology for the department's imaging needs?

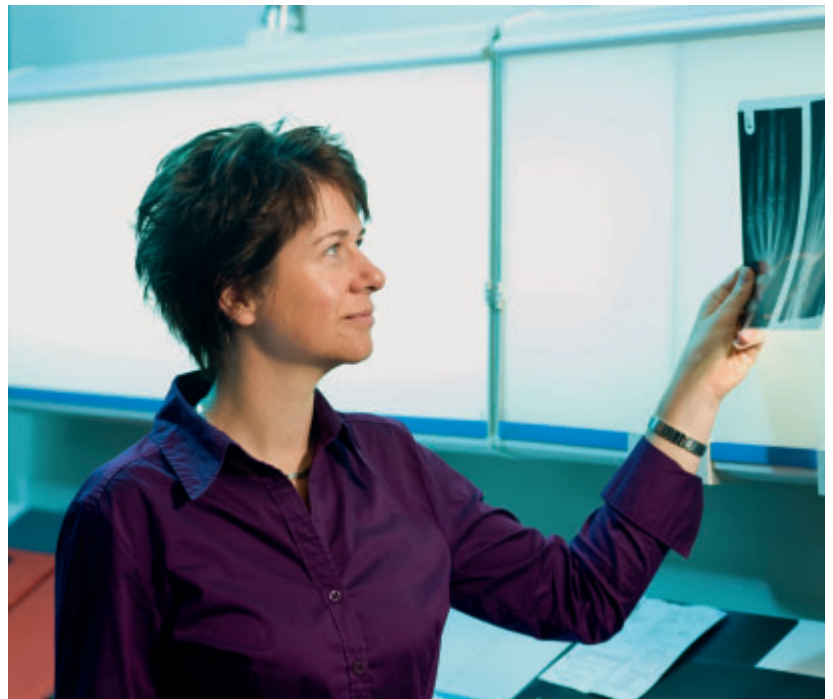
Initially, we considered equipping one room with a computed radiography (CR) system and the second room with a flat detector (FD) digital radiography system. To fully address the imaging needs of both in- and outpatients in our department, we needed the handling flexibility of the CR cassettes and the higher efficiency yield from the FD system. Upon further consideration and discussion with the working committee, we decided that the optimal solution was to equip both rooms with FD imaging solutions. This was in part influenced by the availability of the wireless mobile detector, which provides both handling flexibility and enhanced workflow. There are several advantages for having identical operation in both rooms. First, it simplifies training and minimizes errors, which in turn leads to enhanced patient safety. Second, it ensures a smoother departmental workflow because patients can be assigned to either room regardless of examination type and physical condition. In the event of system downtime, examina-

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tions can proceed as usual in the other room without much interruption to workflow.

From the expected efficiency improvements with FD solutions and our manpower calculation, we were also able to reallocate a staff member to manage the new RIS/ PACS while retaining the staffing level of the department.

In selecting a FD imaging solution, what were the most important criteria for the department?

While preparing and evaluating the different FD solutions, we were looking for several key technical features that would deliver the workflow benefits we wanted. The key factors were:

1 A high degree of automated system movements for faster workflow. We

wanted a system that minimizes physical effort and strain for enhanced working conditions and safety.

- 2 Flexible handling of the detectors was very important as we image quite a number of inpatients in wheelchairs and beds.
- 3 Excellent image quality that supports faster and more confident diagnosis by the radiologists.

The Beatrix Hospital in Gorinchem, The Netherlands is part of the Rivas Health Care Group, which provides hospital care, care in nursing homes and home care in parts of Brabant, Gelderland and Utrecht in the middle of The Netherlands. The Beatrix Hospital is a 325-bed, general hospital built in 1992 and with around 10,000 admissions yearly.

- 4 User-friendly features that improve the entire workflow and enhance patient comfort and safety.

After evaluating the different FD solutions, how did Ysio* meet the requirements of the department?

In our opinion, Ysio has the features to improve workflow and reduce physical effort for our radiological technologists. These benefits are derived from the high degree of automated system movements and the multi-functional controls available on the colour touchscreen. Furthermore, the combination of an integrated large 43 cm x 43 cm detector with a wireless mobile detector gives us the opportunity to work in a completely digital mode without restrictions. The high spatial resolution of the detectors also gave us the confidence for high image quality, which will benefit the patients and improve patient care.

What other features of Ysio do you consider valuable for your imaging routine?

During our site visit, it became apparent that other systems we visited were not comparable to Ysio. The colour touchscreen on the X-ray tube and the many ergonomic positioning functions convinced us that it would be easier to perform examinations with a single technologist. As our technologists are familiar with the Siemens *syngo* user platform, it was also a plus for us to have a familiar

user platform to ensure a shorter learning curve. We are looking forward to working with the Ysio and are convinced that it is the optimal imaging solution for our imaging needs.



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